Pitfalls of Professionalism?

Military Academies and Coup Risk

Tobias Böhmelt,[1] Abel Escribà Folch,[2] and Ulrich Pilster[3]

[1] *University of Essex, Department of Government, Wivenhoe Park, Colchester CO4 3SQ, United Kingdom, tbohmelt@essex.ac.uk*

[2] *Universitat Pompeu Fabra, Departament de Ciències Polítiques i Socials, Ramon Trias Fargas, 25-27, 08005 Barcelona, Spain, abel.escriba@upf.edu*

[3] *University of Essex, Department of Government, Wivenhoe Park, Colchester CO4 3SQ, United Kingdom, ulrich.pilster@gmail.com*

Abstract

Military academies tend to be strongly linked to the professionalization of the armed forces. This explains why many countries in the world have created such institutions. The following article studies a potential negative externality stemming from military schools: increased coup risk. We argue that military academies may create, inculcate, and strengthen cohesive views that could conflict with incumbent policies, and that these schools establish networks among military officers that may facilitate coordination necessary for plotting a putsch. We also contend and empirically demonstrate that these negative side effects of military academies are in particular pronounced in non-democracies, i.e., military academies have diverse effects across regime types. This work has significant implications for our understanding civil-military relations. Furthermore, we contribute to the literature on military education and professionalization, as we suggest that military academies are important vehicles through which coups can emerge, predominantly in authoritarian states.

Keywords: Civil-Military Relations; Coup d'État; Military Academy; Military Professionalism

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Introduction

Despite its importance for a military's structure and performance, as well its obvious implications for civil-military relations in general, military professionalism remains insufficiently understood. Powell (2012: 1022) recently stressed that "though military professionalism […] has widely been said to impact the military's willingness to attempt a coup, efforts to quantitatively explain this aspect are virtually nonexistent." This research seeks to address this shortcoming and to contribute to the broad literature on civil-military relations, military education, professionalism, and coups d'état by examining how the establishment of military academies, one observable implication and closely-related aspect of military professionalism, affects civil-military relations.

A military academy is a state-controlled military school, which graduates officer cadets to their commissions (Toronto 2007: 49). In particular, "national military academies focus on educating future officers in the skills and knowledge they will need to perform their duties" (Toronto 2017: 859). Dornbusch (1955) describes military academies as assimilating institutions, which draw recruits into the military's common "cultural life" and create a set of shared memories and attitudes. Military academies exist in both developed and less developed countries, in democracies and authoritarian states, but arguably the most prominent examples are in the Western world and include Sandhurst in the UK, Saint Cyr in France, or West Point in the US.[1] These institutions are strongly linked to the professionalization of armed forces. In Lebanon, for instance, army officers regard the military academy as the "school of the nation," where officer cadets transcend sectarian identities (Moussa 2016).[2] This link between professionalism and military academies explains why many countries in the world have indeed created such schools: to improve structure and

[1] Military academies differ from other military educational institutions. Contrary to war colleges, military academies aim to educate cadets who just entered the military rather than mid-level officers to enable them to take on general staff duties. They also aim at training future officers, not non-commissioned officers or enlisted personnel.
[2] See also Guyot (1987: 4) on the Philippine academy or Jowell (2014: 287) on the Rwandan military school.

performance, as well as to increase efficiency and effectiveness of the armed forces. But despite the obvious beneficial implications associated with military academies, we suggest that there can also be a negative side effect stemming from such institutions.[3]

Consider July 15, 2016, when a faction of the Turkish military tried to overthrow Recep Tayyip Erdoğan's government. The coup plotters eventually failed to capture (or kill) Erdoğan, but had to face other segments of the military and citizens loyal to the regime who rapidly took to the streets.[4] Erdoğan's response to the failed coup attempt was quick and forceful: thousands of people were arrested or purged, including judges, teachers, police officers, civil servants, as well as numerous military officers and other personnel. Importantly, only a few days after the putsch attempt, on July 31, the Turkish government announced that it would close all military academies in the country.[5] The Turkish military has traditionally perceived itself as a protector and guarantor of Kemalism. And, in fact, military academies are the key channel through which officers are socialized into Atatürk's principles. By taking advantage of its weakness after the failed attempt, Erdoğan thus may have sought to eliminate a traditional source of ideological opposition and to put the armed forces under more direct control of the government to forestall potential future coups.

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[3] At the same time, note that military academies do not constitute the only model for educating officers. Instead of entering the military through separate military academies, future officers may be promoted from the rank and file. Barnett (1967), for example, contrasts the military academy model of educating future military officers with the German model (especially after World War I) where future officers did not train in separate military academies but together with soldiers from the rank and file. Israel is a commonly cited model, where, in the past, officers of the ground forces were mostly recruited only after having acquired experience as non-commissioned officers or squad leaders in combat units during their compulsory military service (Cohen 1995; Bar-Or and Shay 2005).

[4] Patrick Kingsley and Ghaith Abdul-Ahad, "Military coup attempted in Turkey against Erdoğan government," *The Guardian*, available online at: https://www.theguardian.com/world/2016/jul/15/turkey-coup-attempt-military-ankara-istanbul.

[5] "Turkey to shut military academies as it targets armed forces for 'cleansing'," *The Guardian*, available online at: https://www.theguardian.com/world/2016/jul/31/turkey-to-shut-military-academies-as-it-targets-armed-forces-for-cleansing.

But what are the precise mechanisms behind the relationship of military academies and coups? Is there systematic evidence for the presence of military academies increasing the risk of a coup? And how do contextual factors such as regime type potentially moderate such an effect? The Turkish case highlights the importance of investigating the institutions and characteristics of military professionalism and how they could facilitate the staging of a coup d'état. However, the role of academies remains largely unexplored. Previous work identified a number of factors that influence the military's disposition and capacity to stage a coup. Concerning *motives*, key influences include structural variables capturing governments' legitimacy crises and political instability, or the military's grievances and the defense of its (unmet) corporate interests (e.g., Thompson 1973; Nordlinger 1977; Londregan and Poole 1990; Galetovic and Sanhueza 2000; Belkin and Schofer 2003; Collier and Hoeffler 2007; Thyne 2010; Roessler 2011; Powell 2012; Leon 2014; Bell and Sudduth 2017).

The study of the factors driving the *capacity* to coordinate a putsch is more limited. Thompson (1976) stresses the role of organizational cohesion, using the involvement of senior officers in coups as a proxy. However, he does not directly identify what spurs cohesion and allows officers to coordinate in the first place. Thus, scholars have mostly focused on obstacles that hinder coordination such as international conflict (Arbatli and Arbatli 2016; Piplani and Talmadge 2016), the size of the military (Powell 2012), and, especially, structural coup-proofing strategies (e.g., Feaver 1999; Quinlivan 1999). Some find that counterbalancing, entailing the fragmentation of the security forces into multiple military and paramilitary units, reduces coup risk (Belkin and Schofer 2003; Powell 2012; Böhmelt and Pilster 2016; Albrecht and Eibl 2018; but also, De Bruin 2017).

Previous works have difficulties in identifying organizational factors that shape a military's preferences and facilitate coordination. This research fills this gap by focusing on the impact of

military academies on the risk of coup attempts. First, in an unconditional setup, we argue that military academies may increase the risk of coups through two mechanisms. On one hand, education through academies creates, inculcates, and strengthens a set of cohesive and shared preferences, views, and corporate identity amongst military personnel, which could go against the actions, policies, or ideas of incumbent governments. On the other hand, academies contribute to establish and foster networks of trust among military officers. Such trust-based relationships, in turn, facilitate coordination and the revelation of information, both necessary for plotting and executing a coup. Second, we also develop an argument for a conditional hypothesis. In democracies, military schools may emphasize more the importance of civilian control of militaries and the norm against military intervention in politics as core principles underlying democratic institutions. In dictatorships, leaders are more likely to pursue particularistic interests, and have stronger incentives to limit the autonomy of the military and interfere in promotion and recruitment practices. Additionally, the secrecy and trust that personal networks enable become all the more important for successful plotting in more repressive contexts. This implies that the negative side effects of military academies might be more pronounced in non-democracies. Using global data on coup attempts and military academies for the period 1950 to 2004, our results show that military schools significantly increase the risk of coups d'état, but that this effect is mostly significant in non-democratic regimes.

Despite their clear benefits for improving militaries' performance and effectiveness, by showing the potential negative side effects of military academies, we are the first to point to previously unknown implications for our understanding of how civil-military relations work. Concretely, we contribute new insights on military education and professionalization, which will be crucial for policymakers and scholars alike, as we suggest that military academies can be

important vehicles through which coups emerge, especially in non-democratic regimes. Hence, while our research underlines that Western states should take great care when establishing military schools in less democratic or democratizing states, academies like Sandhurst, Saint Cyr, or West Point are unlikely to constitute a threat for democratic survival or to increase coup risk in their respective, established democratic countries.

The next section reviews the literature on the general relationship between military professionalism and civil-military relations. We then develop our unconditional theoretical argument in two steps, before developing the claim that regime type moderates the impact of military academies on coup risk. After describing the data, variables, and methods, we discuss the main findings. The final section concludes and discusses the research's implications for both policymakers and future studies.

Military Professionalism and Civil-Military Relations

There are two general views about the relationship between military professionalism and civil-military relations. On one hand, Huntington (1957) defines military professionalism as the armed forces being "a peculiar type of functional group with highly specialized characteristics," focused on the management of violence and maintaining control over their own education and promotion systems. Importantly, Huntington (1957: 71-78) hypothesizes that professionalism would render the military politically neutral and prevent it from intervening in politics: "the participation of military officers in politics undermines their professionalism, curtailing their professional competence, dividing the profession against itself, and substituting extraneous values for professional values."[6] On the other hand, Finer (1962: 20-26) argues that military professionalism

[6] This contrasts with Janowitz's (1960) definition of a professional *constabulary* force characterized by an officer corps that is integrated with civil values and politically aware.

might push officers toward intervening in politics in opposition to the incumbent government. He outlines three mechanisms: professionalism makes the military to perceive itself as serving a more abstract notion of the state as opposed to the government currently in power; a sense of professionalism pushes the military into confrontations with the incumbent over recruitment, promotion, or equipment issues; and, finally, professionalism creates a desire in the military to avoid being used in oppressing domestic opponents.[7]

Scholars have correspondingly sought to unpack professionalism into its various elements to shed more light on this apparent contradiction. Stepan (1973), for instance, claims that professionalization in the armed forces may orient them around internal (i.e., political stability and development) or external threats (i.e., other states). A military whose professionalism is defined vis-à-vis internal dangers is then more likely to intervene in politics. Nordlinger (1977) distinguishes between three dimensions of military professionalism: autonomy from civilian interference, exclusiveness as the sole armed force in a country, and expertise in the administration of violence. The effect of expertise, the dimension most relevant to our research, on the military's propensity to intervene in politics is not clearly identified, though. On one hand, a focus on the acquisition of military expertise may keep the armed forces away from intervening in politics. On the other hand, military officers could be tempted to transfer parts of their expertise, such as managerial skills, into civilian governance, thus increasing coup risk. Also, expertness usually increases their power and capacity vis-à-vis the government.

[7] Similarly, Bellin (2004: 145, 2012) contends that *institutionalized* militaries, as opposed to patrimonialized ones, tend to be "rule-governed, predictable, and meritocratic," with "established paths of career advancement and recruitment" and with a corporate identity separate from the regime. Moreover, "under these conditions, the military elite will be able to imagine separation from the regime and life beyond the regime" (Bellin 2012: 133), which may lead them to oppose the government.

Other studies investigate the effects of military education on civil-military relations. Quinlivan (1999: 151ff) argues that the introduction of military educational systems, including military academies, in Saudi Arabia, Syria, or Iraq has served as a coup-proofing device: "[i]mproving the technical skills of regular military officers increases […] their sense of the military risks involved in a coup attempt […]. The very dependence of technically skilled officers on the creation of detailed plans and their coordination opens the conspirators to active measures by the security forces." Similarly, Ruby and Gibler (2010: 359) contend that US training of foreign officers "encourages political stability and a democratization of foreign militaries." By altering the attitudes of foreign military officers to the extent that they accept civilian superiority in civil-military relations, we should expect a reduction in coup risk. In a more recent analysis, Savage and Caverley (2017) arrive at a different conclusion: foreign-trained officers can draw upon their newly acquired military skills, know how to frame and politically justify a potential coup attempt in a way acceptable to the US, and have influence and prestige resulting from foreign training, which they can use to mobilize fellow soldiers. Foreign training can thus *increase* coup risk.

Several aspects seem important against this background. First, military academies are strongly linked to the professionalism of the armed forces, and this is why many countries in the world have created such institutions. Figure 1 underlines this by showing the maximum number of military academies in any year for all countries in the world since 1950. Obviously, military academies exist in many states, and they are not confined to only a few geographical areas or nations. However, secondly, how professionalism and, particularly, military academies are related to and affect civil-military relations remains understudied. We contribute to this debate by first discussing two causal mechanisms linking academies to coup risk: preferences and coordination. Further, we also argue that that the negative side effects of military academies are more pronounced in non-

democracies, i.e., military academies are likely to exert diverse effects across different forms of government.

Figure 1

An Unconditional Effect of Military Academies: Views, Beliefs, and Networks of Trust

Rationalist approaches posit that coups are the result of two general mechanisms shaping the expected utility and, hence, the perceived probability of success of attempts: the military's motives (or willingness) for intervening, which determine the expected payoff of seizing power and, secondly, the opportunities (or constraints) plotters face when coordinating and acting collectively (e.g., Sutter 2000; Belkin and Schofer 2003; Thyne 2010; Powell 2012; Böhmelt, Pilster, and Tago 2017). In a first, unconditional argument, we contend that military academies may increase the risk of a coup attempt by influencing both of these factors.

On one hand, mirroring Finer (1962), military academies may affect officers' *disposition* to plot coups. Academies are central in the formation and transmission of shared beliefs, cohesive preferences, and norms held by military officers. As Toronto (2017: 859-860) notes, academies "instill in the officer corps a sense of duty and loyalty to the state or to society." Such identities and values can be transmitted independently from the sitting government. Militaries that run academies possess a higher capacity for autonomously instilling corporate values and preferences, as well as for transmitting specific doctrines in officers' belief systems. Under such circumstances, tensions and confrontations with incumbent governments over corporate interests or even political values are more likely to emerge. First, military socialization strengthens corporate consciousness,

which "implies a concern with the maintenance of hierarchy, discipline, and cohesiveness within the military; autonomy from civilian intervention in postings and promotions; and budgets sufficient to attract high-quality recruits and buy state-of-the-art weapons" (Geddes 2003: 54). Such preferences may raise confrontations with the incumbent government when the latter's actions encroach on the military's corporate interests and autonomy (Thompson 1973; Nordlinger 1977).

Second, military academies may also increase officers' political consciousness by instilling specific political values and doctrines that define a more politically active self-perceived mission and role for the military.[8] For example, a core principle of the Turkish Military Academy guiding the education of their members is: "[c]adets are to develop service awareness and profession of arms with respect to Atatürk's principles and reforms, Atatürk nationalism, principles of democratic, secular, social constitutional state in the framework of Kemalist Thought System."[9] The ideological preferences and actions of several Turkish governments have been interpreted as threats to secularism and democracy. And indeed, the preservation of Kemalism was invoked by military officers to justify the 1960, 1971, and 1980 coups. Additionally, some school-transmitted doctrines gear officers toward intervention in political life. For example, Stepan (1971, 1973) claims that academies in Latin America during the 1960s and 1970s, e.g., those in Brazil, Argentina, and Uruguay, promoted a new doctrine of national security, which advocated an active and expanded political role of the army that led, for instance, to the 1964 coup in Brazil. Related to this, some suggest that education and training in academies may foster a sense of moral and

[8] As Rouquié and Suffern (1998: 151) stress, "[t]he new armies' civic and national responsibilities, and the independence enjoyed by their officers, hardly predisposed them to remain politically silent. Those who had believed that professionalization would guarantee an apolitical military were to be proven sorely wrong. Soldiers do not easily remain politically neutral when they find themselves heavily engaged in nation and state-building tasks and charged with important internal defense functions."

[9] Available online at: http://www.kho.edu.tr/eng_about_tma/mission.html.

even intellectual superiority among officers (Nunn 1972, 1975). The military might well perceive itself as serving more superior values as opposed to the government's partisan and narrower goals (Finer 1962), thereby feeling skilled, competent, and compelled (as patriotic saviors) to intervene to redress undesirable situations brought about by "corrupt" civilian politicians (Nordlinger 1977). Beliefs, preferences, and norms may differ significantly in countries where officers have not been educated in a military academy, but instead train with the rank and file. Note, for instance, Ben Shalom's (2014: 52-53) analysis of officer education in the Israeli Defense Forces and its officer corps' value system: "[t]he Israeli combat officer is first and foremost a combat soldier rather than an officer operating according to professional military ethics […]. Combat officers operate according to informal, rather than professionalized, traditions. These traditions are shaped by specific missions and weapons systems, rather than through membership in an institutionalized officer corps with a unique code of ethics […]. Unlike other professional militaries in the west, this profile expresses a widespread Israeli ethos, rather than a military ethic that is separate from society."

Education in military academies spurs cohesiveness, making it more likely that a sufficient number of officers decide to intervene to defend or preserve their corporate interests or political principles when deemed to be under threat. As Stepan (1973) puts it, a "[m]ilitary unity […] is strongest when one of its central principles, such as military discipline, is threatened from the outside." And in Geddes' words (2003: 54), "most officers agree to join coup conspiracies only when they believe that the civilian government prevents the achievement of their main goals." Academies, in sum, contribute to define and inculcate such principles and goals.

On the other hand, military academies increase officers' *ability* to plan and execute a coup. Specialized schools not only improve the skills and operational capacity of the armed forces

(Savage and Caverley 2017), but also create networks that facilitate coordination. Indeed, coordination is a critical requirement in the planning and implementation of a coup (Geddes 1999; Böhmelt and Pilster 2016; Böhmelt, Pilster, and Tago 2017). Participants in contentious collective action usually face a high risk of discovery and punishment. Plotting demands secrecy and trust. To avoid detection, to reveal their (true) preferences to other potential conspirators, to bring enough participation into the plot, to coordinate their actions, and to maximize their chances of success, individuals engaged in different forms of contentious collective action need to strongly depend on others they trust. As a result, mobilization for such endeavors often relies on pre-existent personal networks that do create strong ties and relations of trust (e.g., Siegel 2009; Snow, Zurcher, and Ekland-Olson 1980).[10]

Petersen (2001: 16ff) posits that "strong communities" are central for the communication and recruitment processes that underlie any rebellion. Political entrepreneurs attempting to organize for fighting the government usually face a state that has infiltrated the population with its informers. The incumbent also attempts to block communication between different segments of the society that may mobilize against the government. In this context, direct, multi-dimensional, reciprocal relations based on shared beliefs and values, a characteristic of "strong communities," allow for organization. Such strong communities make individuals to overcome collective action problems through norms of reciprocity, status rewards, social monitoring within the community, and by facilitating threshold calculations (Petersen 2001). With regard to the latter, community

[10] For an analysis of the role of networks in military defections during the Syrian conflict, see Koehler, Ohl, and Albrecht (2016). Gould's (1991) study of the 1871's uprising of the "Commune of Paris" demonstrates that mobilization was, among others, based on pre-existing social networks. In her study of militant female Palestinian networks in 1980s Lebanon, Parkinson (2013) shows how important trust-based quotidian networks were for mobilization, especially once the Israeli counterinsurgents had severed formal command and control structures. Finally, Staniland (2014: 23ff) argues that insurgent organizations are built on the basis of their leaders' pre-existing social networks. In nascent insurgent groups, leaders have to appropriate already existent networks during a time of state repression and uncertainty over the organization's persistence.

norms allow individuals to form beliefs about the number of individuals likely to participate in a rebellion, thus facilitating the assessment whether they can find "safety in numbers" against state repression.

Just like an insurgency, a military coup is a high-risk endeavor marred by the various problems faced in the organization of contentious collective action. We argue that the necessary networks and bonds that aid coordination among coup-plotters are likely to be established and emerge during the years of training in military academies. Although some officers may share a preference for intervening, initial disaffected plotters still need to approach and share their views and intentions with other fellow officers with the aim of persuading and mobilizing them. During the planning phase, the core group of conspirators then needs to ensure the participation of core military units, preferably those stationed in or around the capital. At the same time, conspirators must avoid the scrutiny of the government's security services that are, especially in coup-prone countries, usually on the watch-out for disloyal officers (Nordlinger 1977: 100; Singh 2014: 108-109). Recruitment is thus risky, with detection possibly resulting in arrest, dismissal, the loss of military rank, or worse. As Luttwak (2016: 80) emphasizes, the natural calculus of an officer approached to participate in a coup would be to report it to government authorities.

In light of this, consider the role of military academies. Prospective officers attend military schools at the beginning of their careers. The time in the military academy is the first – and likely most defining − part of officer cadets' "institutional lives," during which their identity as a professional soldier is systematically built up in order to transcend other social or ethnic identities (Janowitz 1977: 146-147). Pre-existing networks of trust between officers are central for solving the problem of whom coup plotters can approach for two reasons. First, shared beliefs and values transmitted during training make it less difficult for plotters to approach and persuade other fellow

officers into action (or acquiescence) as they are more likely to share a similar view on current circumstances – as outlined with our first argument. Second, such networks allow plotters to communicate their plans securely to other officers without risking being betrayed (Luttwak 2016). As Singh (2014: 108-109) emphasizes, "conspiracies therefore evolve where members of the military already trust each other, such as among members of the same training cohort or officers who have served together."

The collective action problem does not cease once plotters have shared their views, convinced other officers, and agreed to proceed with action, however. Once underway, military coups can be understood as coordination games between different factions within the military (Geddes 1999; Singh 2014; Böhmelt and Pilster 2016): while soldiers may prefer different coup outcomes, they usually share an interest in preserving cohesion and preventing fratricidal conflict between different units of the armed forces. Geddes (2003: 54) notes here that "the most important concern for many officers in deciding whether to join a coup conspiracy is their assessment of how many other officers will join." These considerations, in turn, raise the importance of belief formation about the behavior of other soldiers.[11] A shared set of beliefs and personal connections influence officers' threshold calculations, i.e., their expectations of how others and their units (and how many) may act during a coup, which reduces uncertainty and facilitates coordination. As expressed by an officer interviewed for Moussa's (2016) study on the Lebanese officer corps, "[w]hen the army split during the civil war [in 1989-1990], there was no gunfire or genocide between the two armies. Officers who graduate the same year cannot shoot at each other."

In sum, since military coups are instances of high-risk contentious collective action, the officers planning and conducting a coup need to rely on networks of trusted officers. Military academies

[11] In Singh's (2014: 21) words, "the most important consideration in an actor's decision calculus is to support the side he believes everybody else will support, and military strength flows accordingly to that side."

are usually one, if not the central location, where future officers form a "cohesive body" (Barnett 1967: 22) and relationships of trust (Siebold 2007). For officer cadets, the time in the military academy typically constitutes a time of intense bonding, creating life-long ties of trust (Dornbusch 1955), which are fungible for collective action, more generally, and for the plotting and executing military coups in particular. Stepan (1971: 53), for example, shows that the core of the "free officers" who plotted the 1949 coup in Egypt were all part of the very first class of the Egyptian military academy in 1936. Similarly, the core group of officers staging the 1981 coup in Thailand was part of the same class in the Chulachomklao Military Academy (Chandra and Kammen 2002: 118-119). And the 1991 coup was led by officers from the academy's Class 5 (Pathmanand 2008: 125). Based on these two mechanisms, i.e., that military academies can inculcate and strengthen cohesive views and that these schools establish networks among military officers that facilitate coordination, our unconditional argument suggests:

Unconditional Military Academy-Coup Hypothesis: Military academies increase the likelihood that a country experiences a coup d'état.

A Conditional Effect of Military Academies: Regime Types

We also argue for and empirically test a *conditional* hypothesis: the theory assumes so far that contextual factors do not influence what impact military academies might have on coup risk. Yet, there are several reasons to expect the positive effect of academies on coup risk to be more pronounced in non-democracies. First, civil-military conflict may be more likely to emerge under authoritarian rule (see also Pilster and Böhmelt 2012). Military academies could instill future officers with a shared set of beliefs, preferences, and norms, independent of whether they are situated in a democratic or an authoritarian state. However, tensions with incumbent governments

over the military's corporate interests or values seem to be more likely to emerge in autocratic forms of government. On one hand, authoritarian governments are more like to clash with the military's self-perception of serving a more general and abstract notion of the state and society (Finer 1962; Bellin 2012). Compared to democratic polities, authoritarian regimes are more likely to embody narrow or particularistic interests (ethnic or ideological) and make use of corrupt and repressive practices. This military's obligation to primarily defend the public and national interests − and not a (non-representative) regime's – is especially put to test when the regime calls on the military to repress domestic opposition and crush popular protests. As Pion-Berlin, Esparza, and Grisham (2014: 234) argue, "[m]issions that are, in the military's mind, professionally degrading or otherwise incompatible with the military's raison d'être are ones they prefer not undertaking." This raises the risk of officers shifting their support from the regime to the opposition and, hence, may increase the likelihood of coups.

On the other hand, elites in authoritarian states have stronger incentives to engage in coup-proofing, a move that may actually trigger civil-military conflict (Sudduth 2017). Due to its capacity for violence and organized action, the military poses a threat to the survival of incumbent regimes (Svolik 2012; McMahon and Slantchev 2015).[12] However, this threat is more pronounced in authoritarian states than in democratic ones. Successful coups d'état are less likely in democratic states with their mass political participation and agreed-upon formulas for political change and transfers of power (Pilster and Böhmelt 2012). On the contrary, incentives to capture power through a coup are higher in non-democratic regimes. Autocratic leaders fearing for their power, in turn, may undermine professionalism, and encroach on the military's corporate interests and organizational autonomy. Measures such as purges, promotion based on loyalty or personal links,

[12] Indeed, coups have been the most common way through which autocratic leaders and regimes have been deposed (Svolik 2012).

rotations, discretionary appointments, parallel chains of command, and ethnic staking can cause sharp confrontations with the incumbent over hierarchy, recruitment, and promotion (e.g., Horowitz 1985; Feaver 1999; Quinlivan 1999; Roessler 2011; Sudduth 2017).

Second, personal networks of trust among military officers are scarcer under more repressive regimes. This, in turn, could enhance the importance of the networks military academies inevitably create. Not only the risk of detection is higher in non-democracies due to the intense scrutiny of the regime, but so is the severity of punishment. Also, autocrats actively seek to hinder coordination within the armed forces not only by undermining hierarchy and creating parallel chains of command (Böhmelt and Pilster 2016), but also by using infiltrated personnel, informers, military internal intelligence units, and political commissariats (Perlmutter and LeoGrande 1982; Barany 1991). Under such conditions, an atmosphere of mistrust may easily spread among officers. The trust that networks created in military academies provide become all the more necessary and critical for the successful plotting and execution of a coup under autocracy

In addition to these two channels, another mechanism specific to democracies further contributes to the impact of academies being less significant under democracy. According to Stepan (1988: 143), "[w]here the military is a part of the state apparatus and has a markedly different idea about the nature of democratic politics and the legitimate role of the military than that held by the leaders of the government, this can be a major source of intrastate division. The executive team of the state apparatus will then, at some time, have to play an active role in monitoring and reshaping military resocialization." One possibility is to close academies such as Turkey's Erdoğan announced and the executive did with ESEDENA in post-transition Uruguay (Stepan 1988: 143). Also, some civilian state authorities may try to influence military academies and their teaching. As Janowitz (1960) would suggest, it seems plausible that military education

in democracies may seek to convey the norm against military intervention in politics in their teaching and practices. Similarly, Huntington (1957) posited that professionalism would foster political neutrality of the military. In detail, while the military, as an enduring institution, might not necessarily adjust to the regime type of the current government in place, and what is being taught at military educational institutions rather reflects the military's ideology and self-understanding, it seems likely that how and what is being taught might differ across regimes. As discussed above, Ruby and Gibler (2010: 359), among others, demonstrate that the US's academy teaching focuses on conveying democratic values to its cadets. In light of this, the impact of military academies could well differ across democratic and non-democratic states. In general, democracies are usually characterized by civilian control of the military and the norm against military intervention in politics, and it seems plausible that military academies in some democracies may convey these core principles underlying democratic political institutions in their teaching and practices. We conclude in light of this discussion that the role of military academies, what is being taught at these institutions, and to what extent the state influences or monitors this, seems likely to differ across democratic and non-democratic forms of government (see also Stepan 1971).

Conditional Military Academy-Coup Hypothesis: The effect of military academies on coup risk varies by regime type.

Data and Research Design

Data and Dependent Variable

We analyze monadic time-series cross-sectional data that have the country-year as the unit of analysis. The temporal domain is 1950 to 2004 due to the limited data availability of our main

explanatory variable on military academies. That said, other explanatory factors (that we describe in the following) have an even more limited availability, which decreases the temporal coverage in some of our estimations to 1970-2004. The dependent variable is based on Powell and Thyne's (2011) data set on coups. A coup attempt is defined as an "attempt by the military or other elites within the state apparatus to unseat the sitting head of government using unconstitutional means" (Powell and Thyne 2011: 249ff). Following Powell (2012: 1026), we created a binary coup variable in 1950-2004 that receives a value of 1 if *at least one* attempt was made in a year (0 otherwise). Out of the 7,909 country-years in our data between 1950 and 2004, 381 (4.82 percent) are coded as 1. Since *Coup Attempt* is binary, we use logistic regression models. To control for temporal dependencies in the likelihood of coups, we follow Carter and Signorino's (2010) cubic polynomial approximation based on the number of years elapsed since the last attempt (if any). Standard errors are clustered by country to control for intra-group correlations such as idiosyncratic path dependencies of states over time.

Explanatory Variables and Control Items

Our main explanatory variable is based on the number of active military academies in a given country-year, as coded by Toronto (2017). As indicated above, he defines military academies as any military school (i.e., army, navy, air force, and other branches) graduating cadets to commissions. The main data sources for this compilation are Heyman (2002), Keegan (1983), and secondary (historical) sources including individual states' defense ministries and military websites. To minimize the potential for bias related to coding error, we use a dichotomous measure

of this item. In our sample, the variable has a mean value of 0.744 and a standard deviation of 0.437.[13]

Figure 2

Specifically, about three percent of our sample countries have never established a military academy (e.g., Albania), while 50 states (e.g., the US) in our sample (45 percent) have had at least one academy over the entire observation period. This leaves us with about 50 percent of countries in our sample that display variation in the establishment of military academies, i.e., there is an academy in some years, but not in others. The general spatio-temporal trends in our main explanatory variable are summarized in Figure 2, which depicts the average degree of established military schools by regions over time. A level of 1, for example, means that all countries in a particular region have had a military academy in a specific year. In the appendix, we summarize models that omit those countries that always/never had a military academy and estimations based on a purely cross-sectional sample.

For the conditional hypothesis, we estimate models where we specify an interaction of *Military Academy* with variables on regime type. To this end, we create two regime type variables: *Autocracy* and *Democracy*, with anocracies as the reference category. We employ data from the Polity IV project (Marshall and Jaggers 2004) and define democracies as those countries scoring a value of +6 or higher on the *polity2* scale. Autocracies receive a value of -6 or lower in a specific year. As coups are generally less likely to break out in democracies than autocracies or anocracies, we use *Autocracy* and *Democracy* as controls in the unconditional models, but interact them with

[13] The appendix presents alternative models using the count of military academies.

Military Academy for the test of the conditional hypothesis. For a final set of models, we divide our sample into democratic, autocratic, and anocratic country-years to examine whether the impact of military academies varies by regime type.

In light of previous work (e.g., Powell 2012; Böhmelt and Pilster 2016; Albrecht and Eibl 2018), we consider several alternative determinants of coups. Some of these controls could also correlate with the establishment of military academies, e.g., it seems plausible that particularly states with a strong military are more likely to have created military schools. And, in fact, our analysis in the appendix presents evidence for this, highlighting that it seems unlikely that military schools are randomly distributed across countries. First, good economic conditions raise the legitimacy of the ruling regime, making it less likely that there is demand for an irregular change in government and leadership. We include two variables to control for this. One captures the percent year-to-year change in GDP per capita, a second is the lagged and logged income (GDP per capita) level per year. Both variables are based on real income data in 2005 prices.

Second, challenges to the regime may not only emerge due to economic factors, but also political ones. We thus control for the overall level of political instability in a country as captured by the Banks' (2001) *Instability* index. This variable comprises information on assassinations, purging of governmental officials, guerrilla activity, protests, riots, and strikes (see also Powell 2012: 1028). The variable we use is both lagged and logged.

Third, we control with three variables for the strength of the military: *Military Personnel*, which is logged and lagged by one year, measures the size of a country's armed forces as coded by the Correlates of War Project. Additionally, we include states' expenditure level per soldier (*Soldier Quality*, lagged and logged) and annual changes therein (*Change Military Expenditure*). For these

three variables, we follow the operationalization in Powell (2012), but use updated versions due to the larger period of time in our data set.

Finally, we control for institutional coup-proofing or counterbalancing using the variable on the effective number of ground-combat compatible forces in Pilster and Böhmelt (2011, 2012). We also take into account the squared term of this variable in our estimations to model the likely curvilinear impact on the likelihood of a coup (Böhmelt and Pilster 2016). Both variables, *Counterbalancing* and *Counterbalancing*^{2}, are lagged by one year.

Table 1 gives an overview of the descriptive statistics of all variables discussed so far. The last column reports the variance inflation factors.

Table 1

Empirical Results

The models of our analysis for the unconditional hypothesis are summarized in Table 2, which presents three estimations. The first focuses on our core variable of interest only; while temporal controls are included, we omit the other explanatory variables discussed above. The second model includes most controls next to *Military Academy* and the variables for temporal autocorrelation, but we omit the counterbalancing variables as data for them are only available as of 1970. Including *Counterbalancing* and its square term then limits our period under study significantly, as shown in Model 3 where the number of observations is notably lower. The entries in Table 2 are regular logit coefficients and, thus, only their signs and significance levels allow for a direct interpretation. Substantive quantities of interest are summarized in Figure 3, where we plot the

changes in the coup probabilities for a switch of *Military Academy* from 0 to 1 while holding all other variables constant at their medians. Table 5 presents the control variables' first differences, i.e., percentage-point changes in the predicted probability of a coup. Finally, the models for the conditional hypothesis are presented in Table 4: Model 4 comprises the interaction of Military Academy with the regime-type items, while Models 5-7 focus on sub-samples of democracies, autocracies, and anocracies, respectively. As the multiplicative specification in Model 4 cannot be directly interpreted, Figure 4 plots the predicted probabilities of coup risk given the (non-) establishment of military academies in either democracies or autocracies.

Table 2 and Figure 3

Models 1-3 support our first, unconditional hypothesis. Consider the area under the precision-recall (PR) curve and the expected proportional reduction in error. The former is based on an in-sample prediction approach, and ranges from a low value of 0.0 if there is no improvement in predictive power over a random guess to 1.0 for perfect classifications of outcomes. With regard to our core variable of interest, compare the PR-curve statistics and the reductions in error for Model 1 and Model 3. While the full model achieves a reasonably high PR score of 0.210, Model 1 shows that this is primarily driven by *Military Academy* as all other controls (except those capturing temporal dependencies) are omitted from the estimation, but the PR score is already at 0.145. Similarly, Model 1 is "responsible" for a reduction in error of about 0.05 alone, while Model 3 is characterized by a value of 0.109 here. All this indicates that *Military Academy* substantially improves in-sample predictive power. The predicted proportional reduction in error further supports this conclusion. In terms of the coefficient, as expected, *Military Academy* is positively

signed and statistically significant at conventional levels. Therefore, while military academies may improve the professionalism of the armed forces, they can produce a negative externality. In substantive terms, changing *Military Academy* from 0 to 1, the simulated risk of a coup is raised by about 1.8 percentage points on average across Models 1-3. For Model 1, the first-difference point estimate is at 1.47 percentage points (90 percent confidence interval in [0.006; 0.024]), while we obtain estimates of 2.3 percentage points (interval in [0.011; 0.036]) and 1.60 percentage points (interval in [0.005; 0.029]) in Model 2 and Model 3, respectively.

Table 3

Our argument underlying the unconditional hypothesis emphasizes that officers develop shared ideas and norms in academies that could challenge incumbent leaders. A second mechanism suggests that experiences at military academies build and foster networks among officers that then allow coordinating the organization of a coup more effectively. Given this rationale, there might be a temporal lag between when officers actually attend military academies and when a coup is attempted (see Singh 2014). In a similar vein, some countries abolish their academies after some years, but the networks created there should persist; in any event, after officers leave the military academy, those mechanisms we argue for should prevail. Therefore, we examine different lag structures for the main variable, *Military Academy*.[14] For instance, coups from the middle of the military hierarchy make up the vast majority of coups (Singh 2014), but, at a minimum, about ten years might be necessary for an individual who graduated from a military academy to be promoted

[14] Ideally, we would require data on whether military officers who are currently (at least) in the middle-ranked positions had attended military academies when they started their careers. Unfortunately, we lack such disaggregated data.

to a position where he can take a leadership role in coordinating with other military officers in key positions to succeed in a putsch. And even in developing countries, becoming a battalion commander (usually associated with the rank of lieutenant colonel) requires at least 15 years after graduation. In light of these patterns, the non-existence of a military academy in a *current* year may not fully capture that military officers have low abilities and motivations to attempt a coup. We thus re-estimated Model 2 with different temporal lags for *Military Academy*. Table 3 summarizes the coefficient estimates, standard errors, and significance levels for *Military Academy* at these different temporal lags.[15] But as demonstrated there, the positive and significant effect of *Military Academy* prevails at any temporal lag specified.

Table 4 and Figure 4

Coming to the conditional hypothesis suggesting that the impact of military academies on coup risk differs by regime type, we specify an interaction of *Military Academy* with *Democracy* and *Autocracy*, respectively. In addition, we also study different sub-samples of our data: autocracies only, democracies only, and anocracies only as defined by the binary regime-type variables. First, *Military Academy* still exerts a positive and significant effect on coup attempts even when including interactions with *Democracy* and *Autocracy* in Model 4. To allow for a more direct interpretation, we plot predicted probabilities for the core scenarios of the multiplicative specification in Figure 4. As demonstrated there, the significant effect holds for autocracies (anocracies as the baseline category) since the points estimates for *Military Academy*=0 and *Military Academy*=1 are statistically different from each other and, (b) the estimate of the latter is

[15] Control variables are included, but not reported for this table.

also significantly different from *Military Academy*=1 in the case of democracies (as the confidence intervals do not overlap in either case). However, the effect stemming from military academies seems to be more weakly pronounced in democratic states: although the predicted probability of a coup increases when moving from 0 to 1 for *Military Academy*, the two scenarios' confidence intervals do overlap in the case of democracies.

Second, we further examine this by re-estimating Model 2 for the regime sub-samples in our data. As can be seen in Models 5-7, the unconditional effect of *Military Academy* identified above is particularly driven by non-democratic regimes: autocracies and anocracies. Mirroring what we report in Figure 4, the coefficient estimate of *Military Academy* is statistically *insignificant* for the democracy-only sub-sample. Ultimately, this suggests that the negative externality stemming from those institutions is most strongly pronounced in non-democratic states (see also Stepan 1971). However, note that it cannot be derived from these findings that military academies *reduce* coup risk in democracies. In fact, neither is the finding pertaining to democracies negative nor is it statistically significant in any estimation. As such, military academies do *not* reduce coup risk in democratic regimes, but it seems they merely do not significantly affect the likelihood of a coup. While this supports our conditional hypothesis as the effect of *Military Academy* does differ across forms of government, the insignificant finding for democracies can be explained along the following lines. As discussed, what is being taught at military academies may not be directly driven by whether the current regime in power is a democracy or not. The military, as an enduring institution, does not necessarily adjust to the regime type, but rather reflects its own ideology and self-understanding. Importantly, the results in Table 4 might also be driven by the fact that there is less variation on the dependent variable in the democratic sub-sample: there are 32 coup attempts in Model 5, but 99 and 93 in Model 6 and Model 7, respectively. Finally, the conditional hypothesis

is likely to apply more to disposition component of our theoretical argument rather than the ability mechanism. This could induce that while military academies increase coup risk by teaching the importance of corporate interests that could go against the incumbent political regimes, they simultaneously reduce coup risk by teaching the importance of civilian control of the militaries and non-military intervention in politics, which leads to the overall insignificance of *Military Academy* in the democratic sub-sample as two competing mechanisms cancel each other out.

In terms of our controls, the findings in Tables 2 and 5 generally confirm previous results. We briefly discuss the statistically significant findings only. First, coups are less likely in democracies as compared to anocratic forms of government. Table 5 shows that this variable is linked to a decrease in coup risk of about 1.9 percentage points, mirroring our discussion of the variation on the dependent variable in Models 5-7. Autocratic regimes do not necessarily differ from anocracies, though, as depicted by the insignificant first difference in Table 5. A higher level of instability induces a higher coup risk: raising *Instability* from its minimum to its maximum leads to an increase in coup risk of about 3.5 percentage points.

Table 5

Second, while *GDP per capita* is not significantly related to coup risk, *Change GDP per capita* is. In Model 3, our calculations suggest that the likelihood of a coup decreases by about 34 percentage points when moving *Change GDP per capita* from its minimum to its maximum. Moreover, our findings support the claim that larger militaries are less coup-prone (Powell 2012): *Military Personnel* is negatively signed and significant, while its first difference is estimated at a decrease of 4.7 percentage points. *Soldier Quality*, which rests on the same underlying theoretical

mechanism, mirrors this and is even more substantive in size: the first difference is at -0.389. Finally, Böhmelt and Pilster (2016) contend there is a curvilinear relationship between counterbalancing and coup risk. Our results find evidence for this claim and we shed more light on the substance of *Counterbalancing* in the appendix.

Conclusion

This study extends earlier research on military professionalism, education, and civil-military relations in general. The arguments and empirical analyses support the *Unconditional Military Academy-Coup Hypothesis* that military schools can shape cohesive views, which potentially conflict with incumbent policies, and create networks that facilitate coordination necessary for plotting a putsch. We also found evidence for the *Conditional Military Academy-Coup Hypothesis* that the effect of military academies varies by regime type. Given these results, understanding the potential destabilizing impact of military academies is highly relevant to Western governments, including the US and the UK, because military schools now take prominent roles in attempts to provide security-force assistance to fragile states that are mostly non-democratic or in the early stages of democratization.

Experiences in Afghanistan and Iraq have resulted in a certain fatigue and aversion against large-scale ground interventions and permanent missions. The emphasis of Western states' military engagement has thus shifted toward security-force assistance. Instead of deploying large contingents of troops destined for ground combat, Western countries are currently focusing on training, advising, and assisting allied governments that face insurgencies (Biddle, McDonald, and Baker 2018). As of early 2018, the EU maintained training missions in Mali, Somalia, and the Central African Republic. NATO's largest effort is the Train, Advise, and Assist mission in

Afghanistan, while a Global Coalition against Daesh trains Iraqi Security Forces. For the US, security force assistance has become the central means to project stability in areas where it no longer has sufficient forces to provide stability itself. In most occasions, the support or building of military educational institutions is a central element of attempts to deliver security-force assistance. NATO and especially the UK have, for instance, been prominently involved in supporting academies and schools. The purpose of those academies is to train the next generation of officers who are ultimately supposed to lead self-reliant indigenous armies. We have provided the first systematic, cross-national study linking military academies and coup risk and, thereby, highlight that Western states must take great care when establishing such institutions in some contexts. Despite "benign intentions," Western efforts to establish military schools may in fact induce the negative externality of a somewhat higher coup risk in target states, which are to a large degree non-democratic or have only started a process of democratization

Based on our work, future studies may want to further explore the conditions under which the negative-externality effect of military academies is stronger or weaker. Our analysis based on the forms of government is arguably a step in this direction, but, for example, previous research also shows that the different services and branches of the military are associated with coup risk in diverse ways (e.g., Böhmelt, Pilster, and Tago 2017). Further disaggregating the academy data in Toronto (2017) along army, navy, and air force seems an effort worth making. Likewise, how military academies are related to the outcome of coup attempts remains to be tested systematically, although the appendix presents preliminary evidence for a positive impact on coup success. In addition, our unconditional argument relies on two mechanisms, which may merit additional attention. Which of the two channels we have outlined is more influential in affecting the risk of a putsch? Most importantly, however, the finding that military academies are associated with a

higher likelihood of coups considered alongside the claim that these schools are a key indicator of professionalism in the armed forces sheds new light on the debate of how professionalism affects civil-military relations in general (Huntington 1957; Finer 1962). We conclude that military academies are an important vehicle that military officers can capitalize on in preparation of coup d'état, predominantly in authoritarian states.

Table 1. Descriptive Statistics

	Obs.	Mean	SD	Min	Max	VIF
Coup Attempt	7,909	0.048	0.214	0	1	–
Military Academy	5,088	0.744	0.437	0	1	1.28
Democracy	7,074	0.361	0.480	0	1	2.23
Autocracy	7,074	0.410	0.492	0	1	2.02
Change Military Expenditure	6,783	0.477	24.063	-1.000	1,965.292	1.03
Soldier Quality	6,711	8.552	1.583	0.000	14.698	2.18
Military Personnel	7,621	3.407	1.942	0.000	8.666	1.36
Counterbalancing	4,872	1.650	0.628	1.000	4.577	1.09
Counterbalancing^2	4,872	3.116	2.490	1.000	20.951	–
Change GDP per capita	8,065	0.022	0.265	-0.797	20.794	1.00
GDP per capita	8,069	8.283	1.214	4.889	13.357	2.63
Instability	7,523	3.245	3.602	0.000	10.852	1.21

Note: Variables for temporal correction and the interaction of *Military Academy* with the regime-type items are omitted from the table. The last column presents variance inflation factors, which demonstrate that multicollinearity is not a major issue (threshold value of 5).

Table 2. The Relationship between Coups d'état and Military Academies – Main Models

	Model 1	Model 2	Model 3
Military Academy	0.533	0.698	0.610
	(0.211)**	(0.209)***	(0.252)**
Democracy		-0.829	-1.097
		(0.275)***	(0.303)***
Autocracy		-0.141	-0.121
		(0.176)	(0.237)
Change Military Expenditure		-0.131	-0.112
		(0.182)	(0.177)
Soldier Quality		-0.196	-0.406
		(0.074)***	(0.129)***
Military Personnel		-0.185	-0.215
		(0.057)***	(0.071)***
Counterbalancing			-1.349
			(0.811)*
Counterbalancing^2			0.376
			(0.201)*
Change GDP per capita		-3.665	-3.930
		(0.668)***	(0.898)***
GDP per capita		-0.168	-0.083
		(0.114)	(0.131)
Instability		0.128	0.131
		(0.028)***	(0.034)***
Constant	-2.084	0.886	3.254
	(0.188)***	(0.865)	(1.405)**
Obs.	5,088	4,339	3,015
Time Period	1950-2004	1951-2004	1970-2004
Pseudo Log Likelihood	-889.474	-702.450	-384.410
Wald χ^2	106.02***	300.48***	205.47***
Expected Proportional Reduction in Error	0.050	0.104	0.109
Area under Precision-Recall Curve	0.145	0.214	0.210

Note: Table entries are coefficients. Robust standard errors clustered on country are in parentheses. The variables for temporal correction are included, but omitted from the presentation.

* significant at 10 percent; ** significant at 5 percent; *** significant at 1 percent (two-tailed)

Table 3. Different Lag Structures for *Military Academy*

	Coefficient Estimate
Lag 1	0.697
	(0.217)***
Lag 2	0.558
	(0.200)***
Lag 3	0.495
	(0.203)**
Lag 4	0.553
	(0.209)***
Lag 5	0.590
	(0.213)***
Lag 6	0.710
	(0.200)***
Lag 7	0.824
	(0.164)***
Lag 8	0.794
	(0.176)***
Lag 9	0.788
	(0.167)***
Lag 10	0.851
	(0.161)***
Lag 11	0.933
	(0.184)***
Lag 12	0.833
	(0.183)***
Lag 13	0.873
	(0.203)***
Lag 14	0.929
	(0.211)***
Lag 15	0.948
	(0.211)***
Lag 16	1.189
	(0.211)***
Lag 17	1.179
	(0.210)***
Lag 18	1.187
	(0.201)***
Lag 19	1.275
	(0.220)***
Lag 20	0.925
	(0.258)***

** significant at 5 percent; *** significant at 1 percent (two-tailed)

Table 4. Exploring the Conditional Hypothesis

	Model 4	Model 5 (Democracies)	Model 6 (Autocracies)	Model 7 (Anocracies)
Military Academy	0.567	0.864	0.777	0.501
	(0.286)**	(0.597)	(0.302)***	(0.266)*
Democracy	-1.155			
	(0.666)*			
Military Academy * Democracy	0.361			
	(0.717)			
Autocracy	-0.285			
	(0.336)			
Military Academy * Autocracy	0.174			
	(0.408)			
Change Military Expenditure	-0.131	-1.047	-0.083	0.005
	(0.181)	(0.608)*	(0.211)	(0.221)
Soldier Quality	-0.198	-0.199	-0.094	-0.315
	(0.073)***	(0.274)	(0.114)	(0.108)***
Military Personnel	-0.185	-0.238	-0.263	-0.094
	(0.057)***	(0.156)	(0.083)***	(0.099)
Change GDP per capita	-3.636	-8.366	-3.583	-2.775
	(0.677)***	(3.472)**	(0.969)***	(1.126)**
GDP per capita	-0.165	-0.146	-0.047	-0.244
	(0.114)	(0.270)	(0.133)	(0.167)
Instability	0.127	0.180	0.144	0.084
	(0.028)***	(0.082)**	(0.043)***	(0.038)**
Constant	0.998	0.117	-0.761	2.346
	(0.874)	(2.549)	(1.156)	(1.322)*
Obs.	4,339	1,841	1,558	940
Log Pseudo Likelihood	-702.307	-122.612	-303.264	-266.592
Wald χ^2	311.64	84.67	97.60	92.59
Prob>χ^2	0.000	0.000	0.000	0.000

Note: Table entries are coefficients. Robust standard errors clustered on country are in parentheses. The variables for temporal correction are included, but omitted from the presentation.

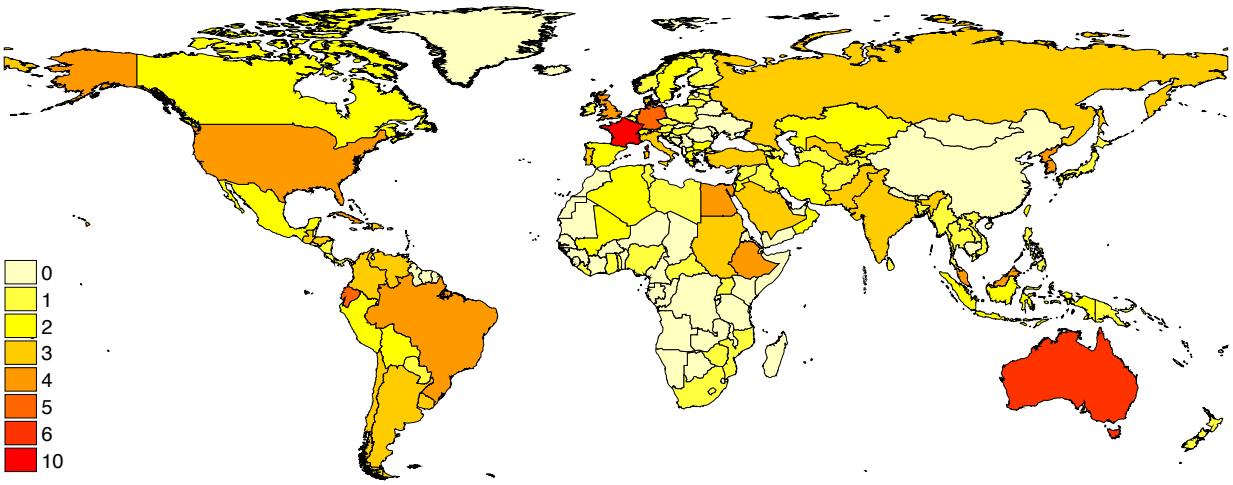
* significant at 10 percent; ** significant at 5 percent; *** significant at 1 percent (two-tailed)

Table 5. Control Variables: First Differences

	First Difference	90 Percent Lower Bound	90 Percent Upper Bound
Democracy	-0.019	-0.032	-0.008
Autocracy	-0.003	-0.014	0.007
Change Military Expenditure	0.318	-0.048	0.982
Soldier Quality	-0.389	-0.768	-0.073
Military Personnel	-0.047	-0.087	-0.015
Change GDP per capita	-0.335	-0.574	-0.137
GDP per capita	-0.020	-0.063	0.018
Instability	0.035	0.016	0.059

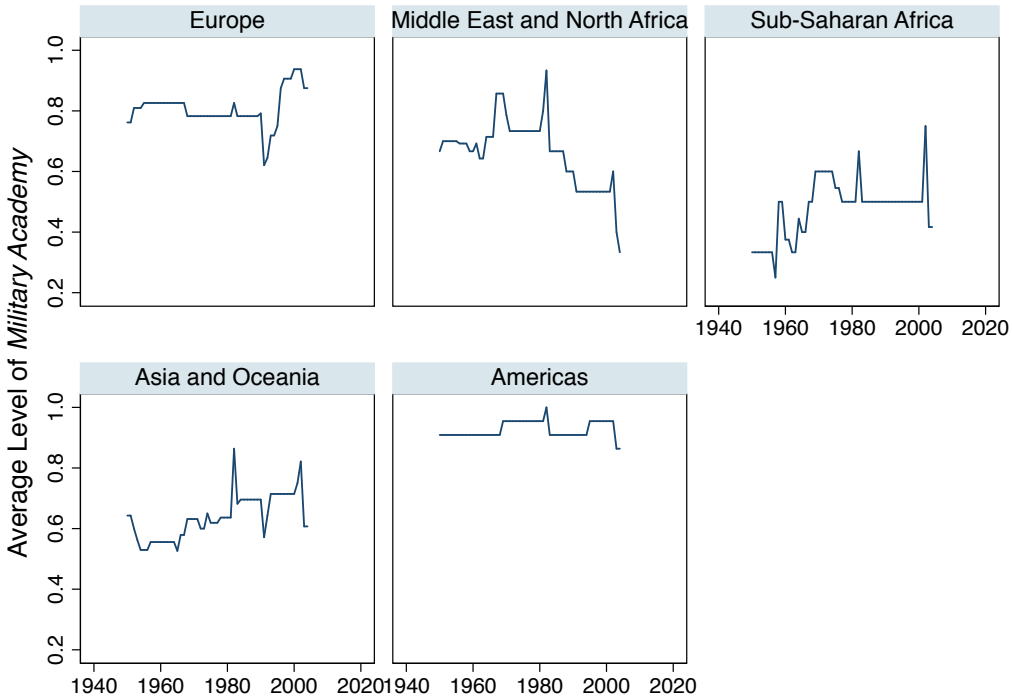
Note: A first difference is the change in the probability that *Coup Attempt*=1 associated with a change from the minimum to the maximum value of a specific variable while holding all other covariates at their median. *Counterbalancing* and its square term are omitted due to the curvilinear impact on the outcome. The calculations are based on Model 3.

Figure 1. Number of Military Academies Worldwide, 1950-2004



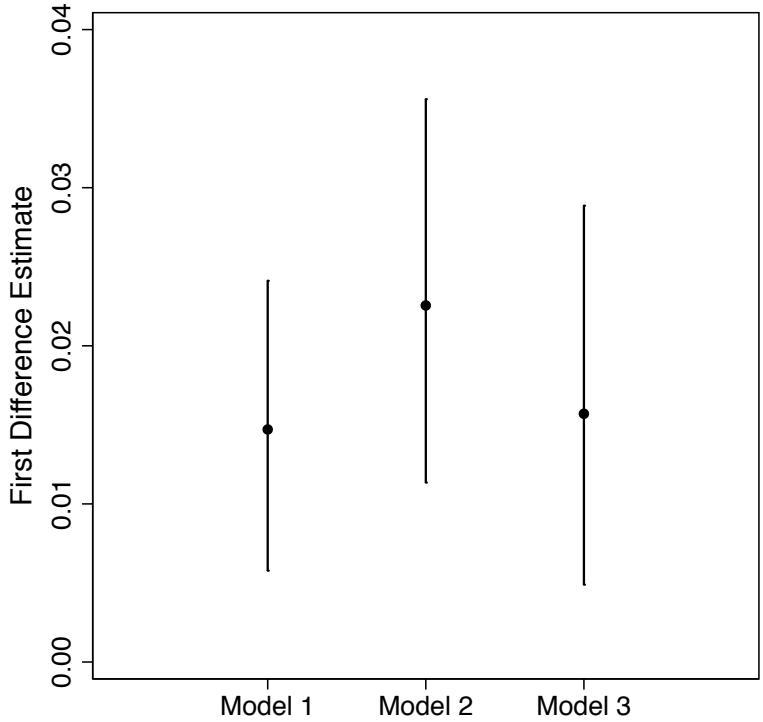
Note: Graph depicts maximum number of military academies a country had in any year between 1950 and 2004. The data used for this graph are based on Toronto (2017), which are described in the research design.

Figure 2. Spatio-Temporal Patterns of *Military Academy*



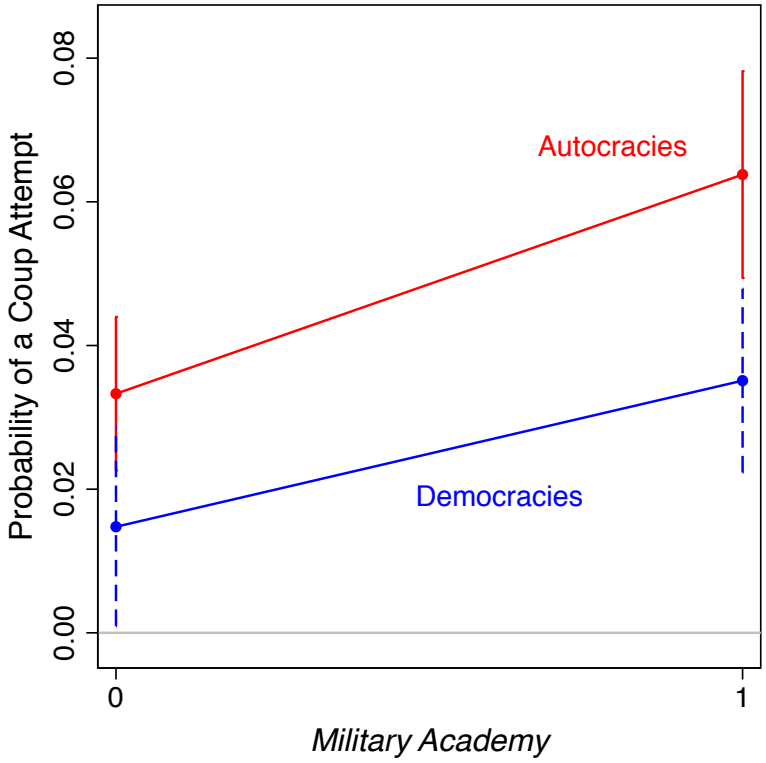
Note: Graph displays average level of *Military Academy* by regions as defined in the Correlates of War data.

Figure 3. First Difference Estimates for *Military Academy*



Note: Graph displays first-difference point estimates and 90 percent confidence intervals (vertical bars) for *Coup Attempt*=1 associated with a change from 0 to 1 for *Military Academy* while holding all other covariates at their median.

Figure 4. The Interaction of *Military Academy* with *Democracy* and *Autocracy*



Note: Graph displays predicted probabilities for a coup attempt given the values of *Military Academy* and conditional on *Democracy*. The vertical bars pertain to 90 percent confidence intervals. The predicted probability of 0 marked with grey horizontal line.

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